

We Claim:

1. A handheld camera, said camera comprising:
 - a sensor adapted to sense an image;
 - a printer for printing images on media dispensed from a print roll, the print roll comprising a chip having predetermined information stored thereon;
 - a processing system, the processing system being adapted to:
 - obtain the image from the sensor;
 - cause the image to be printed on the media in accordance with the predetermined information.
2. A handheld camera as claimed in claim 1, the predetermined information comprising at least one of:
 - Factory Code;
 - Batch Number;
 - Serial Number;
 - Manufacturing date;
 - Media length;
 - Media Type;
 - Pre-printed Media Length;
 - Ink Viscosity;
 - Recommended Drop Volume;
 - Ink Color; and,
 - Remaining Media Length Indicator.
3. A handheld camera as claimed in claim 1, the processing system being adapted to control the printing in accordance with the predetermined information.
4. A handheld camera as claimed in claim 1, the processing system being adapted to:
 - manipulate the image in accordance with the predetermined information;
 - and,
 - cause the manipulated image to be printed on the media.
5. A handheld camera as claimed in claim 1, the camera comprising a guillotine the processing system being adapted to activate the guillotine to cut media from the print roll.

6. A handheld camera as claimed in claim 5, the camera comprising a print roll sensor, the processing system being adapted to activate the guillotine in response to the print roll sensor adapted to detect an attempt to pull media from the camera.

7. A handheld camera as claimed in claim 5, the camera comprising a print roll drive system for dispensing the media along a print path, the printer being positioned in the print path.

8. A handheld camera as claimed in claim 7, the processing system being adapted to activate the guillotine if the print roll sensor indicates media is being dispensed at a rate greater than that of the print roll drive system.

9. A handheld camera as claimed in claim 1, the camera comprising a housing adapted to receiving the print roll.

10. A handheld camera as claimed in claim 1, the chip being a print roll authentication chip with the predetermined information comprising authentication information, the processing system being adapted to:

authenticate the print roll in accordance with the authentication information; and,

print the image in accordance with a successful authentication.

11. A handheld camera as claimed in claim 10, the authentication being adapted to authenticate the presence of the authentication chip.

12. A handheld camera as claimed in claim 10, the authentication being adapted to authenticate the age of the print roll.

13. A handheld camera as claimed in claim 12, the camera being adapted to authenticate the age in accordance with the number of times the chip has been authenticated.

14. A handheld camera as claimed in claim 10, the processing system being adapted to perform the authentication by:

generating a challenge;

transferring the challenge to the print roll authentication chip, the print roll authentication chip being responsive to the challenge to generate a response;

receiving said response; and,

authenticating the print roll in accordance with the response.

15. A handheld camera as claimed in claim 10, the authentication information comprising a first encryption key of an encryption key pair, the processing system being adapted to:

obtain a random number encrypted with a second encryption key of the encryption key pair;

transfer the encrypted random number to the print roll authentication chip, the print roll authentication chip being responsive to the encrypted random number to decrypt the random number using the first encryption key; receive a response from the print roll authentication chip; and

authenticating the print roll in accordance with the response.

16. A handheld camera as claimed in claim 15, the response comprising the decrypted random number, the processing being adapted to:

compare the random number and the decrypted random number; and

authenticate the print roll in response to a successful comparison.

17. A handheld camera as claimed in claim 16, the processing system being adapted to:

obtain the random number;

transfer the random number to the print roll authentication chip, the print roll authentication chip being responsive to the random number to compare the random number to the decrypted random number and generate a response in accordance with a successful comparison.

18. A handheld camera as claimed in claim 15, the response comprising an encrypted number generated by encrypting the random number and a memory vector using the first encryption key, and the memory vector, the processing system being adapted to:

decrypt the encrypted number using the second encryption key;

compare the decrypted second encrypted number to the random number and the memory vector; and,

authenticate the print roll in response to a successful comparison.

19. A handheld camera as claimed in claim 15, the first encryption key being a public key, and the second encryption key being a private key.

20. A handheld camera as claimed in claim 15, the processing system being adapted to:

- generate the random number; and,
- encrypt the random number using the second encryption key.

21. A handheld camera as claimed in claim 15, the camera comprising a camera authentication chip, the processing system being adapted to:

- generate a request and;
- receive at least one of the random number and the encrypted random number from the authentication chip.

22. A handheld camera as claimed in claim 15, the response comprising an encrypted number generated by encrypting the random number and a memory vector using the first encryption key, and the memory vector, the processing system being adapted to:

- receive the encrypted number and the memory vector;
- transfer the encrypted number and the memory vector to the camera authentication chip, the camera authentication being adapted to:
 - decrypt the encrypted number using the second encryption key;
 - compare the decrypted second encrypted number to the random number and the memory vector; and,
 - provide an authentication response to the processing system in response to a successful comparison;
- authenticate the print roll in accordance with the authentication response.

23. A handheld camera as claimed in claim 10, the authentication information comprising an encryption key, the processing system being adapted to:

- obtain a first encrypted random number formed from a random number encrypted using the encryption key;
- request an encrypted random number from the print roll authentication chip, the print roll authentication chip being responsive to the request to provide a second encrypted random number formed from a random number encrypted using the encryption key and transfer the encrypted random number to the processing system;

compare the first and second encrypted random numbers; and
authenticate the print roll in response to a successful comparison.

24. A handheld camera as claimed in claim 23, the camera comprising a camera authentication chip, the processing system being adapted to request the first encrypted random number from the camera authentication chip.

25. A handheld camera as claimed in claim 24, the processing system being further adapted to:

obtain the random number from the camera authentication chip; and
transfer the random number to the print roll authentication chip.

26. A handheld camera as claimed in claim 10, the authentication information comprising an encryption key, the processing system being adapted to:

obtain a random number and an encrypted random number formed from the random number encrypted with the encryption key;

transfer the encrypted random number and the random number to the print roll authentication chip;

receive a response from the print roll authentication chip; and
authenticate the print roll in accordance with the response.

27. A handheld camera as claimed in claim 26, the response comprising an encrypted number generated by encrypting the random number and a memory vector using a second encryption key, and the memory vector, the processing system being adapted to:

decrypt the encrypted number using the second encryption key;
compare the decrypted second encrypted number to the random number and the memory vector; and,

authenticate the print roll in response to a successful comparison.

28. A handheld camera as claimed in claim 27, the camera comprising a camera authentication chip, the processing system being adapted to:
generate a request and;

receive at least one of the random number and the encrypted random number from the authentication chip.

29. A handheld camera as claimed in claim 28, the processing system being adapted to:

receive the encrypted number and the memory vector;
transfer the encrypted number and the memory vector to the camera authentication chip, the camera authentication being adapted to:
decrypt the encrypted number using the second encryption key;
compare the decrypted second encrypted number to the random number and the memory vector; and,
provide an authentication response to the processing system in response to a successful comparison;
authenticate the print roll in accordance with the authentication response.

30. A handheld camera as claimed in claim 15, the camera authentication chip being adapted to generate the random number using a predetermined algorithm.

31. A handheld camera as claimed in claim 15, the camera authentication chip being adapted to generate the random number using a seed, the processing system being adapted to:

generate the seed; and
transfer the seed to the camera authentication chip.

32. A method of operating a handheld camera, the method comprising:

causing a sensor to sense an image;
obtaining the image from the sensor;
printing the image on media dispensed from a print roll, the print roll comprising a chip having predetermined information stored thereon, the printing being performed in accordance with the predetermined information.

33. A method as claimed in claim 32, the method comprising:

manipulating the image in accordance with the predetermined information; and,
causing the manipulated image to be printed on the media.

34. A method as claimed in claim 32, the chip being a print roll authentication chip with the predetermined information comprising authentication information, the method comprising:

authenticating the print roll in accordance with the authentication information; and,
printing the image in accordance with a successful authentication.